

REPLY

Mr. Examiner of the Patent Office

1. Identification of the International Application

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5. Arguments

As for the inventive step of claim 1

In the cited document 1 and the cited document 2, a configuration using a rotation shutter and liquid crystal shutter is disclosed. However, in the above-mentioned conventional configuration, the utilizing efficiency of light is low, because a part of light from a light source is shut off. But the

above-mentioned conventional configuration has an advantage that an optical system can be so configured as to be in a linear shape.

Also in the cited document 2, a configuration using a prism mirror (polygonal mirror) is disclosed. However, in this configuration, since reflecting function of the prism mirror causes light deflection (scanning), an optical system can not be so configured as to be in a linear shape. Therefore, the configuration has a disadvantage that it is difficult to reduce the size, or the like. But in this configuration, the utilizing efficiency of light is high, because light is not shut off.

That is, these cited documents indicate that the utilizing efficiency of light is decreased, if the optical system is so configured as to be in a linear shape, and if the utilizing efficiency of light is increased, the optical system can not be configured as to be in a linear shape. In other words, it indicates that there is no configuration in which an optical system is configured as to be in a linear shape and the utilizing efficiency of light can be increased at the same time.

An invention of claim 1 of the present application has a configuration in which an optical system can be made in a linear shape and the utilizing efficiency of light

can be increased. That is, a light deflecting means circularly deflects irradiated light when the light is transmitted. Since the light deflecting means "transmits" the light, it has an advantage that is impossible to get when using a prism mirror (that is, an advantage that the optical system can be configured as to be in a linear shape). Light may be deflected by transmission in the end. It means that the present invention includes the case in which light is reflected at a halfway portion on the optical path. (See from Fig.35 through 37, and Fig.40 of the present application). The optical systems shown in Fig.36 and Fig.37 can not be regarded as a linear shape. The invention of this application can realize a linear shaped optical system, but it does not mean that a linear shaped optical system is a must component.

Also, the invention of claim 1 of the present application can reduce the amount of light which will be wasted in producing said circular deflection by utilizing at least one of the functions including condensing, more than twice reflecting, and refracting. As a result, the utilizing efficiency of light is increased. Thus, the invention of claim 1 of the present application provides a configuration in which the optical system can be made in a linear shape and the utilizing efficiency of light

can be increased. Such a configuration is not disclosed in the cited document 1 and the cited document 2. Rather, these cited documents indicate that there has not been a configuration in which the optical system can be made in a linear shape and the utilizing efficiency of light can be increased at the same time. The combination of the cited document 1 and the cited document 2 only discloses a configuration using the combination of a rotation shutter and a prism mirror, or a configuration using the combination of a liquid crystal shutter and a prism mirror, and does not disclose the configuration mentioned in claim 1 of the present application.

Also, if the cited document 4 and the cited document 5 are taken into consideration, devices disclosed in these documents do not produce a period of black display. This is different from the object and configuration of the present application. Therefore, it is impossible to consider the combination of configurations disclosed in the cited documents 1 and 2 and the configuration disclosed in the cited document 4, or the combination of configurations disclosed in the cited documents 1 and 2 and the configuration disclosed in the cited document 5.

As for claim 10 and claim 11

In amended claim 10, a point that "a rod prism for

introducing light emitted from a light source with a reflector and condensed into the light deflecting means is provided" is added to a configuration of claim 1.

Accordingly, it is a configuration in which the optical system can be made in a linear shape and the utilizing efficiency of light can be increased. When the light reflected by the light deflecting means is returned to the rod prism to get to said light source, the light enters the rod prism again by being reflected from said reflector. As a result, reflecting function is utilized more than twice, and the amount of light which will be wasted in producing said circular deflection is reduced.

As for claim 12 and claim 13

Claim 12 and 13 are dependent on claim 1. Claim 1 clearly shows the configuration in which "the lights in the respective colors condensed in smaller areas than those of the element are circularly scrolled on the hold type display elements". For example, light flux for red (band-shaped lights) is scrolled on the hold type display elements for red and the area where band-shaped lights are not applied will display black. A display similar to that of impulse-type display (CRT and the like) is realized by producing the period of this black display. In the configurations in the cited document 4 and the cited document 5, light fluxes of respective colors (red,

green, and blue) are introduced on display elements at the same time. As a result, a period of black display is not produced. Therefore, the configurations are different from the one of the present application.

As for from claim 37 through 42

A great advantage such that consistency in the scroll direction of light fluxes of respective colors is ensured by equalizing the length of optical paths in the respective colors and the configuration of the system for supplying video signal to display elements can be simplified is obtained. Accordingly, ensuring the consistency in the scroll direction of light fluxes of respective colors is not a matter of workshop modification. Even if it is a matter of workshop modification, claims 37 through 42 are dependent on claim 1. Therefore, as far as claim 1 is believed to involve in inventive step, claims 37 through 42 involve in inventive steps.

As for claim 43

Claim 43 is dependent on claim 1. Therefore, the invention of claim 43 also can realize a configuration in which the optical system can be made in a linear shape and the utilizing efficiency of light can be increased. Consequently, the inventive step of claim 43 is not denied by the cited document 1 and the cited document 2.